ANESTHESIA SUPPLEMENT—FOLLOWING PAGE 272

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A Magazine of Practical Surgery in all its branches

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VOL. XXXI. OCTOBER, 1917. No. 10.

RENAL AND URETERAL CONDITIONS IN WOMEN.*

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NEW YORK CITY.

While renal and ureteral conditions in men and women are greatly similar there are some differences. Men are more prone to certain renal and ureteral conditions and women to others. It would too greatly prolong this paper to attempt to consider this subject in a detailed or exhaustive way, so its scope will be confined to a few remarks on conditions that seem to be unusual in men or to predominate in woman.

Floating or movable kidney is the most frequent renal trouble found in women and is found much more often than in the male. It is responsible for many troubles directly and indirectly and it is for the benefit of the complications of floating kidney that surgical procedures are usually instituted. There seems to be some evidence that mobility alone can cause congestion and possibly nephritis.

Chronic appendicitis is a frequent accompaniment of the condition and according to the late Dr. Edebohls is usually a result. The digestive disturbances so often encountered may be due to the appendix or, more likely, to the mechanical distortion of the pylorus or duodenum, rather than a reflex phenomenon.

Dietl's crises are not encountered in the case where there is free mobility of the ureter and the kidney, but in those where the upper end of the ureter is fixed and the prolapse causes acute angulation. From the angulation of the ureter drainage is interfered with and as a consequence more or less pelvic dilatation occurs. Infection in such a dilated and badly drained pelvis often persists a long time.

In regard to the operative treatment, the finding of a floating kidney is not in itself an indication for operation, but I do believe that Dietl's crisis, evidences of gastro-intestinal disturbances and of pyelitis, especially with evidences of pelvic dilatation, call for operation. In properly selected cases the results are good; it is, however, to be remembered that floating kidney is often only a part of the general enteroptosis seen in neurasthenics, and in them the prognosis must be guarded.

Stricture of the ureter, both the upper and the lower portion, occurs with far greater frequency in women than in men. I say this because the regular genito-urinary men write so little of it and because the gynecologist sees many such cases. Hunner reports fifty cases all in women. Most of his cases were of the upper portion.

Of the strictures of the upper end, I believe that infection and renal mobility are the chief causes (I am excluding the stricture of the ureter that is a part of renal-ureteral tuberculosis). Stone is given as a frequent cause, but it has played a minor part in the cases Hunner and I have seen.

The condition is serious, for it is progressive, slowly as a rule, but eventually leading to destruction of kidney function. Again there are many cases where the condition is bilateral. I have had two such cases, one of upper and the other of lower ureteral stricture. I believe that stricture of the upper ureter is more amenable to treatment by dilatation than that of the lower end. It is particularly difficult to keep the lower strictures dilated, even when stretched to large caliber (25 F. through the Kelly cystoscope).

In the diagnosis of these strictures their caliber can be determined by passing catheters on which beads of beeswax have been moulded, and the degree of dilatation above the strictures can be best shown by a pyelo-ureterograph; this also points out what is to be the best treatment. In conjunction with this the renal function of the two kidneys must be determined, as it is useless to do any conservative operative work on a functionally useless organ.

Of the upper end strictures I have had some relieved by dilatation, others by replacement of low-lying kidney, one by an operation similar to a Finney pyloroplastic and another by the separation of adhesions or fascial bands around the upper end of the ureter and elevation of the kidney.

For the lower-end strictures I have four times performed a ureterovesical anastomosis. One was an operative failure and after a month I had to remove the kidney on that side. A second was done over two years ago and an investigation of this in April of this year showed only very slight ureteral and pelvic dilatation (uretero-pyelograph), urine free

* Read before the New York Society of the American Urological Association, N. Y. Academy of Medicine, April 11, 1917.

from pus and the indigo-carmine elimination equaled that of the other side. The collection of the urine by catheter and the functional test with indigo-carmine were done twice to insure accuracy. This, while only one case, is evidence against the claim that the kidneys degenerate when the ureter has been anastomosed into the bladder.

The two other cases have been done within the past four months, and it is too early to say just what the result will be; but this can be said now—they have both been freed of the attacks of renal colic of which they complained. I have tried persistently and conscientiously to dilate these lower ureteral strictures, but the results have been disappointing in that they soon contract..

Since we gynecologists have been doing more of the extensive operations for carcinoma of the uterus, it has been necessary to dissect free the ureter, and in about 10% of these the nutrition has been so interfered with that a uretero-vaginal fistula has occurred. A certain percentage of ureteral injuries occur in the removal of adherent tubes and intra-ligamentous ovarian and uterine growths; which same injuries often result in obliteration of renal function or the production of uretero-vaginal, or uretero-abdominal fistula. When such a fistula occurs, it is necessary to determine its location and its character, whether it is a complete or an incomplete (that is, whether all the urine discharges into the vagina, or whether a portion discharges into the vagina and a portion into the bladder), whether or not infection of the kidney on the side of the fistula has occurred, and the amount of functional damage that has been done.

If the location of the injury is so high that a uretero-vesical anastomosis cannot be done, then we have to consider uretero-colonic anastomosis, doing nothing, or nephrectomy. Anastomosis of the ureter into the colon has been so unsatisfactory that it should not be considered. If the fistulous tract is long the possibilities of spontaneous exclusion of the kidney may be expected, and if no untoward symptoms of renal origin occur, and it is found that the urinary leakage is lessening day by day, it is better to await this exclusion than to perform a nephrectomy.

If the urinary leakage persists, is too annoying, and the function of the other kidney is sufficient, and there are no contra-indications, then nephrectomy should be considered. Often the condition for which the first operation was done is a contra-indication to further operation. If there has been a recurrence of a carcinomatous growth, it is very doubtful whether nephrectomy for uretero-vaginal fistula is justified.

If it is found that the fistula is a partial or incomplete one waiting (or possibly the introduction of a ureteral catheter to a point above the injury) is indicated, as these usually heal spontaneously.

If the injury is sufficiently low to permit a uretero-vesical anastomosis this should be done under proper conditions; that is, if the pelvic and general condition of the patient are good, and if the function of the kidney on the involved side is good or fair, and infection is not severe. Renal infection, if due to bad drainage, is not a contra-indication, but an indication for operation. However, in many of the cases we see months after the injury, the renal involvement is so great and the kidney function so destroyed that uretero-vesical anastomosis is not only folly, but distinctly injurious, in draining a functionally useless infected kidney into the bladder, thereby setting up a troublesome cystitis. Therefore, in cases where a uretero-vesical anastomosis is technically possible, it should be done if infection is slight, renal function is fair, and there are no contra-indications. If the function of the kidney is badly impaired, and infection is marked, in the absence of contra-indications, nephrectomy is advisable.

In regard to the choice of the manner of performing the operation for anastomosis of the ureter into the bladder: There are only very few cases where the injury is so low that the ureter can be put into the bladder by a vaginal plastic. The end of the fistulous tract can be easily turned into the bladder through the vagina, but this leaves a strictured tract through which the ureter has to drain into the bladder, and it is only a matter of time before a nephrectomy will have to be done to cure the cystitis that is kept up by the passage of infected urine through the bladder—also, the function of the kidney is soon destroyed. The best operation, I believe, is the extra-peritoneal uretero-vesical anastomosis. Many claim that soon the function of the kidney where such an operation has been done is destroyed, but the case here referred to under stricture of the ureter refutes this.

Soon I hope to publish the technic of uretero-vesical anastomosis that I have found very satisfactory, and in the same communication to compare the conditions as regards symptoms, infection, and renal function before and after operations.

Have you interested the young physicians in your community, fresh from the hospital, in the imminent need of medical officers for the army and the navy?

ACQUIRED SYPHILIS OF THE PANCREAS.

J. THOMPSON SCHELL, M.D.
PHILADELPHIA.

My attention was drawn to this condition by the interesting case here reported. I searched the literature of this subject carefully but could not find much to enlighten me. There seems to be a belief that syphilis of the pancreas is usually congenital. Some writers admit that this condition can be caused by the acquired type of the disease but that its presence is discovered post-mortem or when the abdomen is opened for some other condition, as there are no characteristic symptoms. I did not recognize the true pathology of my case even after examining and handling the pancreas at the time of operation.

Rokitansky describes the presence of callosities in other organs than the liver, in individuals affected with constitutional syphilis, and among them in rare cases, he mentions syphilis of the pancreas; so also do Lancereaux and Chvostek. Gummata are, however, also found in this organ. They say further that syphilitic disease of the pancreas may be in all probability be difficult to discover during life. Fatty diarrhea, glycosuria, and epigastric pain occurring in an individual suffering with syphilis are of some value in the diagnosis.

D'Arcy Power and A. Keogh Murphy say: "Out of 188 cases of disease of the pancreas, syphilitic changes were found in three. Pancreatic lesions are more frequent in hereditary than in the acquired disease, the organ being affected in 20 per cent. of syphilitic newborn. In adults chronic interstitial pancreatitis is the more frequent form but both gummatous and cicatrix formation have been met with."

Symptom:—The common type is associated with dyspepsia, wasting and fatty stools, the diagnosis being made from evidence of syphilitic disease of other organs. If the head of the pancreas be affected by a gumma it may give rise to jaundice. Tenderness in the region of the pancreas is an occasional symptom.

Da Costa says "Syphilis is a cause of pancreatitis no more."

Johnson's Surgical Diagnosis:—"Syphilis and tuberculosis cause nodular or diffuse swelling of the pancreas but none of these conditions possess any great surgical interest."

Cechoce: "Syphilis of this organ may be marked by a chronic interstitial inflammation leading to enlargement and also gumma; it is always congenital."

Lancereaux has found the pancreas indurated at autopsy and gummatous tumors of the same organ have been observed. No special symptoms mark the affection during life.

White & Martin—"Specific disease of this organ may take the forms of interstitial pancreatitis or a gummatous involvement. These lesions are extremely rare. Their presence is not indicated by characteristic symptoms during life. There is usually marked involvement of other abdominal organs."

These few quotations are fair examples of the literature on this subject and while no doubt syphilis of the pancreas is a rare condition, it is probably not quite so infrequently present as it might seem, if we were more alert in seeking for it.

I have spoken to many internists and abdominal surgeons and have found none who have seen or at least recognized this condition during life and I therefore feel justified in reporting the following case:—

Miss C. W., a trained nurse, first consulted me for pain in the upper part of abdomen. This pain and tenderness seemed to be located in the region of the pylorus or head of the pancreas. She complained of much nausea and some vomiting, loss of weight and pain throughout the abdomen, especially when the bowels are moved. The stomach contents analysis showed a slight increase of total acidity and the free hydrochloric acid was slightly increased. There was occult blood present in the gastric contents but not in the stools. Her appetite was good and the burning sensation and pain were relieved by taking food or liquids. There were also some pelvic symptoms, backache, leucorrhea, dysmenorrhea, and at this time irregular menstruation. On account of the pain and nausea the patient was not able to follow her usual occupation. An exploratory operation was finally decided upon after an unsuccessful medical treatment had been tried for a period of about three months. A low median incision was made, the uterus, tubes, and ovaries found bound down firmly from some previous pelvic peritonitis. The appendix, which was also bound down and retrocecal, was removed. The upper quadrant of the abdomen was explored and no evidence of ulcer found but the head of the pancreas was quite hard and somewhat enlarged. There were a few adhesions in the region of the pylorus which were broken up and sterile paraffine oil applied liberally. The patient made an uninterrupted recovery and seemed slightly better for a few months but gradually the pain and tenderness in the upper abdomen returned and at times a slight jaundice was noted.

Believing that a cholangitis or some other pathogical condition in the neighborhood of the common duct had been overlooked at the first operation, another section was performed and this time the incision was made in the right upper quadrant to expose the gall-bladder, ducts, and pancreas which were carefully explored. The gall-bladder,

which was somewhat enlarged, emptied very slowly under pressure. The pancreas was larger than at the first operation and still very hard. A diagnosis of chronic interstitial pancreatitis with cholangitis was made and the gall-bladder was opened and drained, with considerable improvement in the patient's condition. Six months later, however, the symptoms were again as marked as before the first operation.

At this time I discovered, quite by accident, the following interesting history: After attending a maternity patient; some eight years before, suspected to be suffering from syphilis, she noticed a small sore on her finger which was slow in healing and later she had a slight skin eruption and some sore throat. The possibility that I was dealing with a case of acquired syphilis of the pancreas was now forced upon me. A Wassermann test which should have been made before was now reported . . . Salvarsan was given followed by the usual mixed treatment with a marked improvement in general health and a rapid disappearance of all of gastric symptoms. She had become apparently a well woman and can eat and digest all kinds of food with no ill-effect or gastric symptoms. She has gained twenty-one pounds in weight and while she is still under treatment she claims that she is entirely well. The last three Wassermann reactions have been negative.

The importance of routine Wassermann examination is emphasized by this case; had this been done in the beginning the patient would have been spared the ordeal of two operations.

This report is submitted to the profession with a full admission of the error in diagnosis and with the hope that it will help to prevent similar errors in the experience of others.

Since this experience I have had several obscure gastro-intestinal cases that have shown positive Wassermann reactions who have improved markedly under specific treatment, but I have not had an opportunity to open the abdomen and examine the pancreas.

REFERENCES.

D'arcy Power & A. Keogh Murphy, Page 36, Vol. 3.
DaCosta: Syphilis of Pancreas, Page 1060.
Cechoce, Page 799.
White and Martin, Page 439.

ROENTGENOGRAPHY IN VESICAL CALCULI.

At present there are two methods which have been suggested to render invisible stones opaque to the rays. One is the coating of the calculus with a silver salt, either argyrol or collargol, the other is the roentgenogram of the air-inflated bladder. The former has been unsuccessful in the few cases of bladder stone in which we have used it. The air inflation procedure was only used in a few instances, and in one case gave a suggestion of a shadow where stone was previously present. When cystoscopy cannot be performed it may prove advisable to attempt one or both of these methods. —A. H. HYMAN, in the *Interstate Medical Journal.*

THE SURGICAL TREATMENT OF POLIOMYELITIS.*

AUGUST SCHACHNER, M.D., F.A.C.S.,
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When we speak of the surgical treatment of infantile paralysis, we mean that the inflammatory element has subsided and we are dealing with the remaining lesions. In poliomyelitis there is destruction of certain cells in the spinal cord, while other cells are impaired through the effects of edema; therefore, it may take some time to determine the extent of the damage. How much is due to cell destruction (which of course is always permanent), and how much to impairment through edema and hemorrhage? We may have to study the case weeks or even months before we can draw entirely accurate conclusions.

The surgical treatment of infantile paralysis falls under two general headings: (1) prophylactic, and (2) reparative. Under prophylaxis a great deal may be done toward preventing extension of the damage by keeping the limb in proper position. When you consider that the disease is almost altogether one of early childhood, before the bony system has fully developed, you can readily understand how important it is, even after paralysis has occurred, to maintain the limb in proper position so that the bones will develop normally. In this way much of the resulting deformity may be prevented.

It has been shown by Jones, of Liverpool, that if a muscle is overstretched, it is practically the same as if paralyzed so long as it is allowed to remain in the overstretched state. For instance, if a foot is thrown into abduction because of paralysis of the tibial group of muscles, the foot is pulled upon by the powerful peroneus muscles of the opposite group which will be overstretched. While the muscles may not be paralyzed, the effect is practically the same so long as they remain in this overstretched state. The foot must be brought into an overcorrected position and maintained there for some length of time before you can really determine whether the muscles are paralyzed or merely overstretched. It is extremely important, of course, to determine whether you have paralysis or functional impairment from overstretching.

While waiting to determine the exact condition present, you should have the limb in proper position, you should also practice massage, use electricity, and increase the vigor of the affected tissues as much as possible. These mechanical meth-

* An address delivered before the Louisville Medical Club, of Louisville, Kentucky, December 1st, 1916.

ods of treatment are not so simple as might at first appear, and oftentimes the patient is overtreated because the attendant does not understand the indications, contraindications and limitations of such measures. Massage should be correctly applied, and the weakest electrical current should be used which will produce muscular contraction. Both these measures should be used with caution, and not too long at any one time. We should not rely solely upon either galvanism, nor upon faradism, but both should be used as indicated. In this manner we are able to get the maximum benefit.

Assuming that the affected limb has been maintained in the proper position, one can determine by the electrical test, or by the method of Spitze, the extent of muscular impairment or paralysis present. The Spitze method consists in taking a needle and approaching the little patient see if he will draw the limb away from you. This is a splendid way to test the muscular action. Both tests may be used to advantage in determining the extent of impaired function, and this is absolutely necessary before treatment can be intelligently applied. If the limb has been allowed to assume a faulty position by gravity on the one hand, or is drawn toward the unparalyzed side by the strong muscular action on the other, you must study the condition carefully to determine what is paralyzed and what is merely overstretched.

In the reparative treatment we have first nerve implantation or anastomosis; second, transplantation of tendons; third, arthrodesis. Which of these methods, or combinations of them, shall be used will of course depend upon the condition present. If only one or two of the muscles are paralyzed, in other words if extensive destruction has not occurred, you can sometimes correct the deformity by tendon transplantation. This may be done early, that is while the child is between three and five years of age. If, however, extensive paralysis has occurred, and instead of the foot being merely drawn slightly to one side, which may be corrected by proper distribution of muscular power, tendon transplantation may not suffice. If as a result of the extensive destruction you have a flail joint, this cannot be corrected by change in muscular distribution alone; and here is where many mistakes have been made and bad results have followed orthopedic work, i. e., operators have tried to accomplish results they had no right to expect. For instance, no one has a right to expect transplanted tendons to hold a flail joint in position and enable the patient to walk. It cannot be done. You may be able to get the foot in proper position, but it will not be held there with that degree of firmness necessary to withstand the shock incident to walking. In such cases you must supplement tendon transplantation with arthrodesis, and if you are going to make a stiff joint then you must wait until the child has arrived at the age of eight or ten years or even older; and here again mistakes have been made, i. e., arthrodesis has been produced in children three to six years of age. The operation at that age will be a failure, for the reason that bony development is insufficient to insure union. If there is a flail joint and arthrodesis has to be produced, then you must wait until the child is ten to twelve years old. In the meantime of course work can be done on the limb by muscle training, electricity, massage, etc., and the limb maintained in proper position. The treatment of deformities resulting from poliomyelitis will be a long story in the majority of cases.

In regard to tendon transplantation: Dr. Gallie, of Toronto, has devised an ingenious operation by which he used some of the paralyzed tendons as ligaments. In some of his cases operated upon three or four years ago function has remained satisfactory. A groove is chiseled in the bone and the tendon is fastened there, thus acting as a ligament. Of course in these cases the surgeon has to study the condition carefully, and then make the most of tissues he finds can be used. For that reason Gallie's idea is a splendid one, and it may be successfully applied in many cases. By this method it is possible to make ligaments out of the useless paralyzed tendons.

In transplanting tendons we can do one of three things: We can split the tendon and allow one-half to remain where it is, say it is a flexor, and transplant the other half and make it act as an adductor, or as some operators have done and are still doing, make it act as an extensor. It is the opinion of most surgeons, however, that we have no right to attempt the latter procedure, and I think common sense will make it plain, that it is unfair to take a flexor tendon, split it in half, and switch one portion over and try to make it act as an extensor. This is expecting entirely too much, as you cannot make a tendon act when it is divided against itself; consequently, while it may be possible to split a flexor tendon and make an adductor out of half of it, you cannot expect to make an extensor in this way, as you cannot make the two ends pull in opposite directions. Therefore, if you are going to make an extensor, you must take the whole tendon and not half of it. Of course you can make half the flexor tendon assist in supination or pronation as the case may be.

The second plan is to divide the paralyzed tendon

and attach it to the proximal end or the side of the unparalyzed tendon. For instance, you can take the lower end of a paralyzed tendon and switch it over to the unparalyzed tendon which you wish to use without dividing the latter. Or the proposition may be reversed, you can divide the unparalyzed tendon and attach it to the one which is paralyzed.

When you transplant tendons you can attach the transplanted tendon either to the other tendon, or to the periosteum of the bone. The tendency now is to attach the transplanted tendon to the bone or the periosteum as near as possible to the point of attachment of the paralyzed tendon which you are going to replace. For instance, suppose you have abduction due to paralysis of the tibialis, you have on the opposite side the strong peroneus longus, brevis and tertius. The peroneus longus is worth more than the brevis and tertius combined. If you bring the strong peroneus longus over and attach it to the paralyzed tibialis anticus, the deformity will be almost perfectly reduced.

In transplanting the tendon you should make it almost on a straight line, or but slightly oblique; do not try to make it "go around the corner" to do its work. You must arrange the tendon in such way as to avoid a right angle, as it will not work properly in that way. Also if you possibly can, make the transplanted tendon slip into the sheath of the paralyzed tendon. There are two reasons why this is advisable. First, you have a lubricated sheath for the tendon, thus avoiding adhesions and fixation and the tendon can work smoothly; second, you obviate a right angle.

Where you have shortening of any of the tendons, they can be easily made longer. Do not resort to tenotomy but lengthen the tendon by dividing it half across at two different points some distance apart, then by splitting the tendon you can secure whatever length may be desired.

If you transplant the tendon and get the foot in proper position, unless there is a flail joint as already indicated, you do not have to produce arthrodesis, and cuneiform osteotomy will also be unnecessary. However, in neglected cases you may have to do a cuneiform osteotomy in order to get the foot into proper position.

Before transplanting the tendon the foot should be manipulated under anesthesia so as to get the tissues well stretched; do not rely upon the transplanted tendon to pull the foot around into position. You must get the foot in proper position first, and the transplanted tendon will hold it there. Of course if there is not much paralysis, arthrodesis will be unnecessary, but if there is a great deal of paralysis you must produce arthrodesis in addition.

A plaster dressing is applied and left intact for six to eight weeks. The dressing is then removed, and you commence to manipulate the limb or foot as the case may be, using electricity, massage, etc., to develop the limb as much as possible. It is surprising how these paralyzed limbs will sometimes develop under proper treatment.

One of the most important points which I would like to emphasize is that usually the surgeon does not see these patients with deformed limbs following poliomyelitis early enough. They are brought to us several years after recovery from the original attack, and we are then expected to accomplish what may be impossible. We may have to work several months to overcome deformity which might have been prevented by proper early treatment and care.

A NEW INSTRUMENT FOR THE APPLICATION OF THE SEWING MACHINE STITCH IN GASTRIC AND INTESTINAL SURGERY.*

E. P. QUAIN, M. D., F. A. C. S.,
BISMARCK, N. DAK.

The proper choice and application of suture technic for the purpose of anastomosis and for the closure of incisions into stomach or bowels are among the essentials for successful gastric and intestinal surgery. We must have a method which prevents leakage of the visceral contents, consumes the shortest amount of time and assures absolute hemostasis. Of these requirements the last is of the greatest moment. Speed of application is always desirable, but it must not go beyond a point of safety and may not be a vital question, except on rare occasions. Prevention of leakage after the first few hours, is aided effectively by plastic adhesions of the serosa. Hemostatis, on the other hand, must be immediate and as near the absolute as possible, or the patient's life is jeopardized by inefficient technic from the very time of operation. My own experience and conversations with other surgeons have convinced me that none of our older suture methods are invariably satisfactory with respect to the problems mentioned above. It may be a confession of weakness in the art of suturing to admit that we have seen hemorrhage follow what was considered a perfect application of a Connell continuous suture; yet the confession must be made out of true interest in our art.

* Read before the Western Surgical Association, St. Paul, Minn., December 15, 1916.

In order that a suture be absolutely hemostatic it is necessary that it comprise, and compress, every part of the incised tissues. A discussion of the various suture methods possible for the accomplishment of this aim is not the object of this paper. Its purpose is to call attention to the use of the double, interlocking, through and through running suture, best illustrated by the stitch made by the ordinary

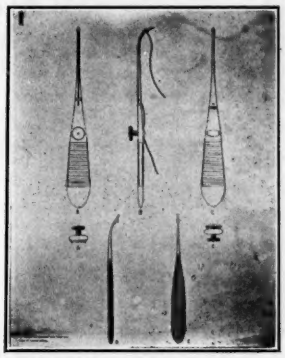

Fig. 1. Needle and "shuttle" with cross-sections of tension spring.

sewing machine in sewing two edges of cloth together. The sewing machine needle differs from other sewing needles in having its eye near the point. When the needle is pushed through the cloth the point carries a loop of thread immediately to the opposite surface of the material. The shuttle passes through the loop, the needle is withdrawn, and the

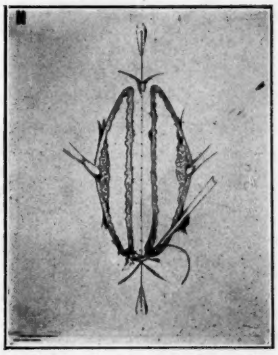

Fig. 2. First introduction of needle at angle nearest operator.

upper and lower threads are interlocked within the opening made by the needle. A succession of stitches makes a firm compression on all fibers of the material between the stitches. It is evident that wherever this type of suture can be applied tightly to any living and bleeding tissue there will be a uniform compression of all structures of this tissue, and hemorrhage distal to the suture line cannot take place.

In order to make a practical application of this principle in gastric and intestinal surgery, I found it necessary to devise a needle after the type of the one on the sewing machine. Numerous models have been made (by V. Mueller & Co., Chicago), but it is believed that the one now demonstrated will be found most satisfactory for the work mentioned (Fig. I). The needle is round and slightly curved toward the point. An eye large enough to carry

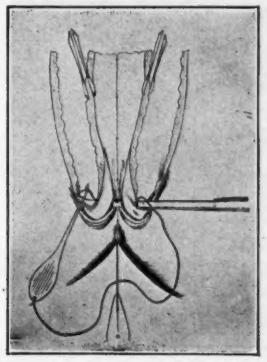

Fig. 3. The same stitch with crochet-hook "shuttle" needle ready to pass through catgut loop near eye of other needle.

No. 2 chromic catgut is placed about one-fourth of an inch from the point. The convex border of the needle is grooved from the eye to the handle so that when the needle is threaded the catgut lies within the shaft between these two points. The base of the point near the eye has a slightly greater diameter than the shaft immediately above the eye, in order

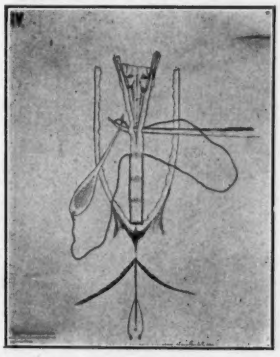

Fig. 4. Schematic demonstration of "sewing machine stitch" in posterior suture line of gastro-enterostomy.

to make the opening through the tissues large enough to accommodate the passage of the catgut, resting on the concave side, without tearing. The upper end of the shaft ends in a flattened handle, making the entire instrument about five inches long. A tension spring is placed on the handle, so as to hold the catgut taut and to allow its ready release as the stitching progresses.

The other end of the catgut is fastened to another needle which takes the place of the "shuttle" in the

sewing machine. A Hagedorn, or an ordinary darning needle, may be used for this purpose. It was found, however, that a small hook near the point is a great convenience for picking up the catgut loop from the concavity of the other needle, and a special crochet-hook "shuttle" needle was therefore made for this purpose.

The technic for a gastro-enterostomy as now

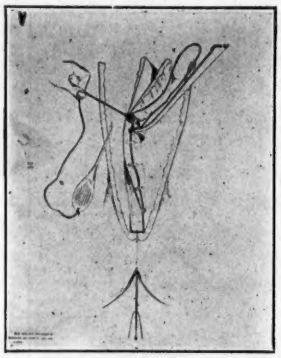

Fig. 5. After tying knot over margins of mucosae the next stitch is begun back of the knot.

practiced by me may be described as follows: The stomach and jejunum are first approximated by the usual serosa-to-serosa suture, the incisions are made and spurting vessels are clamped temporarily. The hemostatic suture is then begun with the special needle, threaded with a twenty-four inch long No. 2 chromic catgut stitch, at the side nearest the operator. The point is introduced from inside the bowel, and in line with the long axis of the incision so as to emerge on the serosa about one-fourth of an inch from the angle (Fig. II). The needle is then made to penetrate the stomach wall at the corresponding point from its incision. It is pushed just far enough into the stomach to allow the "shuttle," fastened to the other end of the catgut, to pass through the loop picked up with the hook near the eye of the needle (Fig. III). By withdrawing the needle and making

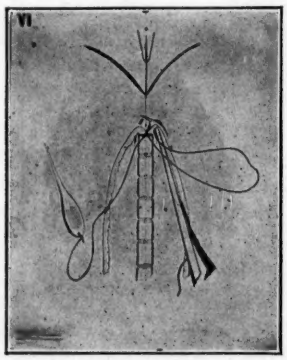

Fig. 6. Method of introducing needle for making first stitch in anterior suture line.

an even pull on the two ends of catgut, the first stitch is pulled tight. Care should be exercised that this stitch is located near the middle of the catgut and the length of catgut between stitch and needle should be kept about three inches.

This process is repeated, making a series of stitches of suitable length (about 3/16 of an inch) until the middle of the posterior suture line is reach-

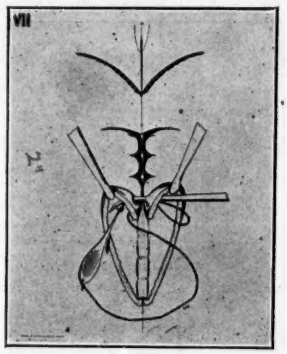

Fig. 7. Method of picking up loop of catgut in anterior suture line (note inversion of mucous membrane margins).

ed (Fig. IV). Here the catgut is pulled up tight and tied over the mucous membrane margins in order to prevent slipping and loosening up of the even pressure. After tying this knot it is necessary to resume the stitching at least as far back on the suture line as where we left off the last stitch before tying the knot (Fig. V). Unless this is done

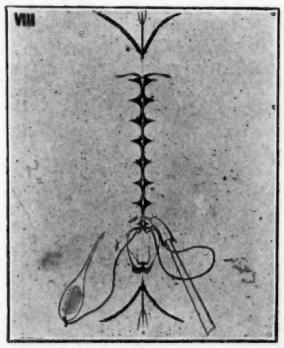

Fig. 8. Introduction of the first of the two stitches closing the final gap (note that entries and exits of needle are on the serosa).

there will be a section of unsutured tissue immediately under the knot. This point should be kept in mind every time the catgut is tied over the edges of the mucosae.

When the farther angles of the incisions have been reached, the ligatures are again tied. From now on a slightly different technic becomes necessary. The point of the needle is passed from inside the jejunum up through its serosa, then brought across to the gastric margin which is penetrated from

serosa to mucosa (Fig. VI). The catgut loop is picked up with the "shuttle" on the gastric mucosa and a perfect serosa-to-serosa approximation can be seen to take place (Fig. VII). The stitching is continued in this fashion, with one or two knots for fixation, until the wound is so nearly closed that it becomes difficult to pass the needle from within the lumen of the viscus. The catgut is then pulled taut and tied. The remaining gap, a half an inch or less, can be closed with the same continuous suture by two through and through stitches as follows:

The needle point enters through the serosa of the jejunum near the center of the gap and is passed back within the lumen to a point near the knot of the last stitch. Here the point comes out of the bowel and is made to enter and leave the stomach at the corresponding points in exactly the reverse

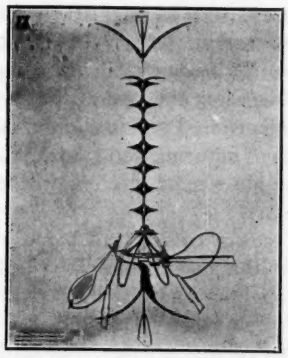

Fig. 9. Method of introducing the second and final stitch after which the catgut ends are tied (note forceps holding catgut until last stich is placed).

order (Fig. VIII). This stitch is not pulled taut, but grasped and held loosely by forceps on each side. The needle is again pushed into the jejunum near the point where it entered for the previous stitch and made to come out through the serosa near the end of the incision. It enters and leaves the stomach in reverse position and the last stitch has been placed (Fig. IX). The first of these two stitches is now pulled taut with the forceps already in place, and the ends are pulled up and tied. The inversion of the mucous membrane takes place more smoothly if this last stitch be inserted in the opposite direction, that is, from stomach to bowel, but as this must be done from left to right it is a little awkward and takes more time.

The last two stitches with the special needle may be supplanted by a through and through figure-of-eight suture with an ordinary intestinal needle (Fig. X). This is advisable in any case when the gastric wall is unusually thick, or when there is an active bleeding at this unsutured part of the gastric and intestinal incisions.

The closure of a simple incision, as for instance into the stomach for exploring purposes, or after the excision of an ulcer, is done in the same manner as the anterior suture line in gastro-enterostomy. In intestinal anastomosis the same plan of procedure is followed as in the gastro-enterostomy described, and needs no further comment.

If this technic has been properly followed out

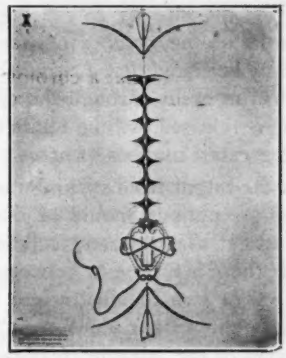

Fig. 10. Figure-of-eight suture with ordinary intestinal needle, which may be used to close the last part of the incision.

there will be a uniform inversion of all mucous membrane margins, the cut tissues are all ligated, and the suture is visible at no place except, perhaps, the final knot which is covered over by the customary musculo-serosa suture. Since the operator has both hands occupied with the two needles, it is important to have an assistant who understands the technic perfectly if the suturing is to be done accurately and rapidly. The assistant catches each

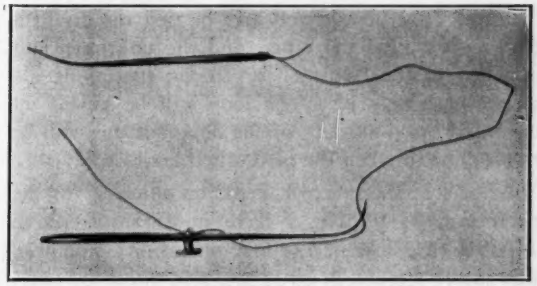

Fig. 11. Photograph showing needle properly (but loosely) threaded.

of the two edges about to be sutured with a tissue forceps, and holds them in proper position and tension for each stitch.

Attention should be called to a few minor "troubles" which may arise during the application of the suture. The most serious difficulty is the possibility of the catgut becoming stuck in the groove or eye of the needle. This happens when the catgut is uneven, water soaked, or too large for the needle. In order to avoid making the needle holes through

the tissues large enough to invite danger of leakage or hemorrhage, the needle shaft has been made so small that its diameter approaches that of the common intestinal needles. This reduces the eye to such a small size that only No. 1 or No. 2 of the ordinary commercial catgut can be used successfully. I have employed the No. 2 Flanders chromic catgut in nearly all gastric and intestinal work referred to below. However, the size of catgut does not constantly conform to the number on the label, and therefore it may be stated that a chromic catgut just fine enough to run easily through the eye when the tension spring is released, will be found of sufficient caliber in the greatest number of cases.

To prevent the catgut from sticking fast in the eye the following precautions should be observed: Do not soak the catgut in any watery solution, to cause it to swell. If there is a close fit between catgut and eye, put a drop or two of albolin into the groove. If nevertheless the catgut does not "run" as it should, the point of the "shuttle" may be introduced through the little transverse groove at the base of the shaft to lift the catgut out of the groove. This will simplify the manipulation of a swollen catgut through the eye.

Any tendency to snarling on the part of the catgut is easily prevented by always pulling one end taut (preferably the "shuttle") before tightening the other end.

In case either end of the suture material should accidentally break during the stitching, it is not necessary to rethread the instrument with a fresh ligature. The broken end may be tied rapidly in a firm loop around the other, and the unbroken end attached to the "shuttle" or to the special needle as the case may be. The loop will be pulled up tight and the continuity of the double suture will be re-established when the next stitch is made.

After a series of experiments on animals, for the perfection of technic, I have now (since March 14, 1916, the date of the first operation) employed this suture method in 20 gastric and intestinal operations as follows:

11 posterior gastro-enterostomies for duodenal and pyloric ulcers.

2 excisions of gastric ulcer of the lesser curvature.

1 excision of a posterior perforated gastric ulcer through an incision in the anterior gastric wall—the latter incision being also closed by the same method.

1 anterior gastro-enterostomy for perforated duodenal ulcer.

1 anterior and 1 posterior palliative gastro-enterostomy for inoperable pyloric carcinoma.

2 end-to-side entero-colostomies after resection of the cecum.

1 side-to-side entero-enterostomy after bowel resection.

The results have been very satisfactory. That leakage is effectively prevented by the double, interlocking suture requires no argument. The time previously consumed for making a gastro-enterostomy has been reduced by nearly one-half. To prove the hemostatic efficacy of the method in gastro-enterostomy, a gastric lavage was performed on the patients with duodenal ulcer immediately after the operation, and repeated about two hours later. With the exception of a few shreds of clots in two or three instances such as might easily have escaped during the operation, performed without clamps, there was no macroscopic evidence of oozing. Occasional emesis after the operation gave the same negative evidence. Previous observations with other methods of suturing had rarely, if ever, shown such complete absence of bleeding in the post-operative vomitus.

Since this suture cuts off all blood supply from the margin of the anastomosis, it is possible that a very early sloughing and digesting away of the devitalized part may take place. It has been questioned for this reason whether this suture may not be too hemostatic for safe application to the stomach. The experiments made on dogs did not indicate that such necrosis has caused any damage. The healing of the mucosae after two or three weeks was almost perfect. This is in line with the findings of Draper and McCarthy (*Surg. Gyn. & Obst.*, 1912, XIV. 558), who made a number of experiments on dogs to determine the fate of the devitalized tissue in the pentagonal suture for gastric ulcer. They found that although this tissue was rapidly expelled, mucous membrane healing took place promptly. There was no evidence of failure in healing from too early necrosis. They used non-absorbable suture material. It is my belief that the catgut is digested away after any operation on the gastric mucosa long before the tissue in question has time to disintegrate. While it is admitted that this question is open for further study, a firm outer suture of the muscularis will obviate any possible danger from this source.

It is evident that the sewing machine stitch may have other fields of usefulness in surgery, chiefly for its hemostatic effect. It has been applied with satisfaction to pedicles of omentum and broad liga-

ment; also in hemorrhoidectomy and thyroidectomy. For the closure of skin incisions a special needle with a cutting edge was devised; but the method does not lend itself in all respects satisfactorily to skin closure and its use for this purpose cannot be advised.

An effort was made to learn whether this simple suture method had not previously been described in surgical literature. It was found that the principle has been mentioned a few times, not so much for hemostasis as for approximation of superficial structures. The earliest reference found was that of Michailoff (*Khirurgia,* Moscow, 1897, 1-285), who recommended its use in plastic operations on the cervix and perineum as well as for the closure of various skin incisions. He applied the suture by means of a modified Reverdin's needle.

In concluding, it may be said that after a careful consideration of the various factors involved in the employment of this suture and of the practical results obtained from its use, I feel justified in recommending it as a method certain to prevent leakage, rapid of execution and efficient in hemostasis.

THE USE OF SOME SIMPLE THINGS IN SURGERY.

1. *"Cements" for the removal of foreign bodies* from urethra—chiefly stone. Pass a full-sized endoscopic tube with round, not oblique, end, down to body and fix the latter by finger behind it from the outside. Remove moisture by cotton-wool. Melt some "elastic glue" and dip the pen end of a pen-handle therein; quickly pass this down the tube and retain in contact with the body for some time. Withdraw tube and pen-handle together. In the only case I tried this it was successful. Cold externally would make the "cement" set better, and perhaps other things (pitch, etc.) might stick firmer still. Forceps nearly always tear the mucous membrane. The same device might be used for the ear.

2. *A condom* tied over a catheter, lubricated, passed and inflated, is useful for urethral or prostatic hemorrhage. Perhaps likewise for epistaxis.

3. *A wine or whiskey bottle* containing hot water, and *kept pressed* to the perineum for some hours, the night of the day an instrument is passed, very materially aids the absorption of stricture, and is much more striking than fibrolysin; containing cold water it is the best means of subduing the erethism of inflammation. It is efficient in pruritis ani.

4. *An elastic bandage* applied at proper time after a hydrocele is injected (iodine and carbolic acid), by keeping the layers of tunica vaginalis in apposition, will often lead to radical cure.

5. Tinct. iodi painted on the hands, over this tinct. benzoin, co., and over this iodine again, is no mean substitute for gloves.

6. *Extemporary specula, etc.* The handles of two toothbrushes are an excellent anal speculum; the loop ends of hairpins bent at right angles, good nasal. Two teaspoons bent back 1½ in. from bowls make a bladder speculum. Dinner forks bent forward at prongs are the best wound retractors.

7. *The end of a scalpel handle* flattened more, rounded off, and serrated forms a much needed dissector (separating bladder, etc., from adhesions).

8. *Any thick-walled small rubber tube* cut very obliquely at one end, the edge of the ellipse being smoothed off by a heated knife blade, constitutes, when well lubricated, a capital catheter.

9. *A whalebone stylet* bent into coudée shape in hot water and passed into this or into any rubber catheter, makes the best coudée catheter.

10. *Bristle and wire pipe cleaners,* pulled to and fro through catheters, are the best cleaners of their lumens.

11. *A tuning-fork* is useful in the diagnosis of fracture.

12. *The air balloon of a small football* under a T bandage and inflated by a cycle pump makes the most efficient perineal pressure, and above the pubis the best uterine. A child's stout air balloon makes a Petersen's bag.

13. *A strip of lint* tied round the root of the penis and embracing the scrotum behind the testes is the handiest contrivance to which to attach the threads of a retained catheter.

14. *The hair of women* in scalp wounds, after disinfection of the parts by iodine, can be used as sutures by tying bundles of the hairs together. As far back as my student days I used this (and with no more sepsis than with ordinary modes) in Dublin, a city then distinguished for its lacerated scalps.

15. A stout stick under the bent knees, the ends connected to the top of the operating table by two bandages, does for a Clover's crutch.—JAMES MACMUNN in *The British Medical Journal.*

Have you asked yourself whether YOU ought to join the Army or Navy Medical Reserve Corps?

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WALTER M. BRICKNER, M.D., F.A.C.S., Editor

NEW YORK, OCTOBER, 1917.

TRAINED MILITARY SURGEONS.

The sudden expansion of gases, liquids, or solids is accompanied by vigorous destructive forces. The rapid transformation of the Medical Department of the United States Army to meet the exigencies arising from the multiplication and intensification of medico-military work has been accompanied by many symptoms of disorganization.

In spite of numerous and tremendous obstacles, the regulating powers have slowly gained control until now the muzzle velocity of the bolt of mercy is approaching its maximum and there is every assurance that the distant goal of efficient service will be attained.

Complaints against the granting of commissions to inefficient and untrained medical men and the assignment of inexperienced and apparently incompetent medical officers to types of work for which they have been entirely unfitted have been numerous. While this fact may temporarily cause considerable dissatisfaction and inconvenience, it must not be forgotten that the immediate demands upon the medical forces so rapidly mobilized were of such a nature that it would have been an impossibility to supply a satisfactorily trained corps of military surgeons.

The entire army, including all officers, is undergoing a course of vigorous intensive training. The medical officers are under the obligation of assuming responsibilities and of fitting themselves for the efficient performance of their duties under trying and unfortunate circumstances. A situation has arisen which can not be viewed without regret although the unusual imperative circumstances must serve as the basis of acceptance of present standards with a sympathetic understanding of the importance of an immediate provision of medical service for the enlisted army.

The surgeon from civil life inducted into a military environment has much to learn. The conditions of medical and surgical practice in the army varies greatly from the practices in hospitals, dispensaries, and homes. Laying aside all questions of administrative and executive work the stress which is placed upon sanitary and hygienic matters transcends any experience of the average surgeon. While surgery itself, with its complicated technic, has reached a high plane during years of peace the problems of caring for the wounded during times of battle involve problems practically unknown to non-military surgeons. The recent surgical history of England and France indicates that civilian surgeons can not perform the services of military surgeons until they have undergone radical re-education in camps, base hospitals, and field dressing stations.

Military surgery as described by Penhallow points out that the condition of wounded men depends more upon the size of the wounds, the regions involved, and the degree of exposure to which they have been subjected before the administration of adequate surgical care than upon fatigue, malnutrition or underlying constitutional disease. The treatment of men twenty-four to thirty-six hours after they have been wounded, with their mud-soaked clothes, their first aid bandages, stiffened from dry blood, clinging to their wounds, exhausted by hemorrhage and weakened by shock does not represent the ordinary type of surgical patients that is received in modern hospitals. Trench foot, gassing, shell and shrapnel wounds, bayonet and knife lacerations, contusions from clubs or rifle butts and violent infections create injuries that test surgical judgment, ingenuity and skill to the utmost.

Most of the fighting in this war has occurred over highly cultivated lands which have been extensively fertilized for past years. The presence of b. tetani, bacillus aerogenes capsulatus, and streptococcus fecalis in the soil make infection almost certain and introduce the element of sepsis into the largest proportion of wounds of all types. The variety of joint and bone injuries, the severity of lacerations and destruction of nerves and blood ves-

sels present problems far beyond the experience of surgeons in civil or industrial life.

From the standpoint of military effectiveness probably every Medical Reserve Officer must be regarded as a student. The larger number of surgeons who have been specialists in disease of the eye, ear, nose, and throat, the internist whose surgical ability has been latent rather than expressed, the obstetricians, the neurologists are destined to undergo a vast amount of reeducation before they will have attained the ability to cope with the difficulties of military surgery.

While criticisms have been widespread concerning the details of administration, insufficient stress has been placed upon the shortcomings of the surgical profession to deal with the essential surgical problems which they are to meet on foreign soil. There is a tremendous responsibility resting upon the Government and the profession to afford every opportunity for the training and practical education of the Medical Reserve Corps along the lines most necessary for safeguarding the lives and limbs of enlisted men. Red tapism has heretofore long characterized army progress and administrative duties have played a large part in the organization and movement of masses of men. This must not interfere with the power and vitality of the Medical Corps to care for the health of soldiers and to restore to the maximum usefulness those who suffer from the diseases and disabilities attendant upon modern warfare.

The time for petty jealousy, for unwarranted criticism, for unjustified recriminations has passed. The Medical Reserve Corps is being rapidly mobilized and the medical fraternity has nobly responded to the call of duty. The need of the day is responsive harmony, willing co-operation, intensive study and earnest application to the real work of the Medical Reserve Corps—the protection of the health and welfare of American soldiers.—I. S. W.

YOUNG PHYSICIANS, *YOUR OPPORTUNITY.*

Never again in the history of medicine in this country will such an opportunity be afforded you to serve your country as well as the best interest of yourself.

The experience which you will gain by being commissioned in the Medical Reserve Corps and seeing active service, will be worth more to you in a professional way than you could acquire in years of practice in civil life.

The pay granted to officers in the Medical Reserve Corps is sufficient not only to cover all needs, but enable you to lay aside a comfortable balance, and while the older men in the profession have come forward, it is to the younger men that the greatest benefits accrue.

The experience will prove broadening both professionally and mentally. With this experience and the thought that you have served your country in time of need, you will return to civil life and receive the further benefits from your patients, friend and acquaintances, always accorded to one who has been so prominently individualized as this opportunity will afford you.—MAC.D.

LEWIS A. STIMSON.

Lewis Atterbury Stimson, professor of surgery in Cornell University Medical College, died on September 17th at the age of seventy-four. He was, indeed, a notable figure in surgery and in surgical literature. If he had done nothing else than to leave his Treatise on Fractures and Dislocations merely as a model of scientific book writing, he would still deserve to be long remembered, and to be followed by bibliographers yet unborn. In reviews of this work—the eighth edition of which appeared only a few months ago—we have repeatedly referred to it as a classic. It is a classic of bibliographic thoroughness and scientific critique. It should be an inspiration to younger men that; in his advancing years, Stimson was as thorough in searching and as painstaking in weighing, the accumulated literature of his subjects, as he was in preparing the first edition of his work.

Nor did his age deter him from making two visits to France during the present war. These were on missions of relief for French war orphans, but they included visits to the military hospitals and observations of the treatment there of compound fractures, etc., which he incorporated in his last edition. Stimson had himself served in our Civil War and he gave to the country a Secretary of War, Henry L. Stimson, his son.

Dr. Stimson's literary productions were not limited to medicine. He wrote on many other subjects, publishing, among other things, a translation of Lacombe's "History of France."

In discussions before medical societies, as in his writings, he was keen, accurate, precise, courteously critical. His fine figure and fine diction will be missed.—W. M. B.

The Army and Navy need more doctors—lots of them! Have you offered your services?

Book Reviews

Traumatic Surgery. By JOHN J. MOORHEAD, B.S., M.D., F.A.C.S. Adjunct Professor of Surgery. Surgeon and Adjunct N. Y. Post Graduate Medical School and Hospital; Visiting Surgeon, Harlem Hospital; Attending Surgeon, Park Hospital, New York; Chief Surgeon, Interborough Rapid Transit and New York Railways, etc. Large octavo; 760 pages; 522 original illustrations. Philadelphia: W. B. SAUNDERS Co., 1917.

It may be truly said that the restitution of a severely injured or infected hand is a greater surgical accomplishment than is the performance of almost any abdominal operation; and as a corollary, it must be admitted that the average surgeon is more at home within the peritoneal cavity than among the nerve and tendons of the hand, more expert in removing the gall-bladder or appendix than in managing a fracture of the femur.

This comprehensive work on traumatic surgery is welcome now, when war injuries and industrial accidents claim so much attention; it is doubly welcome as coming from one whose experience in this field has been so extensive; it is thrice welcome because it is an original work, built upon the author's own observations and methods and illuminated with photographs and drawings, but few of which are borrowed from other sources.

Moorhead is an ardent advocate of the exposure of infected wounds to open air and sunshine. It is a plan of treatment that he has tested out for several years. If this open treatment of such wounds will not always accomplish as much as it has in his hands (he states that he has not had to skin-graft any wound thus managed), nevertheless he has done a great service by thus enthusiastically emphasizing the surgical value of aëro- and helio-therapy.

The Carrel-Dakin treatment of wound infections is not referred to. This is a serious omission. Skin-grafting is referred to incidentally but the operation itself, the choice of modes of dressing are not described. This also is a shortcoming. On the other hand, Moorhead includes various topics that do not properly belong in a work on traumatic surgery, *e. g.*, trigger-finger, hammer toe, flat-foot, Dupuytren's contraction, Morton's disease, coxa vara, hydrocele. He includes a reference to subacromial bursitis quite properly since this affection is probably traumatic in origin. His too-brief description and his indications for treatment are, however, quite misleading. He reproduces here the illustrations from Brickner's article on this subject, but he has mislabeled them altogether, in effect, misquoting this author.

The sections on fractures, dislocations and injuries to tendons are quite full and that on injuries due to electricity also deserves especial mention.

We are glad to note that Moorhead practically denies the traumatic theory of the origin of the ordinary hernias —a stand that this JOURNAL has long taken. It is time that inguinal, femoral and unbilical hernias should cease to be made the basis of accident claims and that the surgical profession should enlighten the courts and the casualty insurance companies.

At this writing Dr. Moorhead, a Captain in the Medical Reserve Corps of the Army, is serving with the "N. Y. Post-Graduate" Base Hospital in France. We may expect that his large experience in traumatic surgery will be so much enriched by the study of war wounds that a second edition of his work will contain much new matter. Meanwhile we commend the first edition to those who seek first-information and practical directions.

Manual of the Diseases of the Eye for Students and General Practitioners. By CHARLES H. MAY, M.D., Director and Visiting Surgeon, Eye Service, Bellevue Hospital, New York; Attending Ophthalmic Surgeon to the Mt. Sinai Hospital, New York; Consulting Ophthalmologist to the French and to the Italian Hospitals, New York City; formerly Chief of Clinic and Instructor in Ophthalomolgy, Columbia University. *Ninth edition.* Duodecimo; 440 pages; 377 original illustrations including 71 colored figures. New York: WILLIAM WOOD & Co., 1917. $2.50 net.

We have grown to expect a fresh edition of this very popular handbook of ophthalmology every couple of years. Nine editions have appeared in seventeen years, during which time, aside from four British editions, several have appeared in German, Italian, French, Dutch, Spanish and Japanese and a Chinese translation is now in preparation. Russia is also occupied just now with other matters but we may expect a translation of May's admirable work as one of the first signs of a restoration of order in that country; and no doubt the Philippinoes, the Patogonians and the Esquimoes will also soon fall into line.

This edition shows no great changes although the text has been submitted to general revision.

Therapeutic Exercise and Massage. By C. HERMANN BUCHOLZ, M.D., Orthopedic Surgeon to Out-Patients, Director of the Medico-Mechanical and Hydrotherapeutic Departments of the Massachusetts General Hospital, Boston, Mass.; Assistant in Orthopedic Surgery, Harvard Medical School. Duodecimo; 427 pages; 89 illustrations. Philadelphia and New York: LEA & FEBIGER, 1917.

An outstanding feature of this very interesting manual is that more than many other books on massage it is based on the clinical aspects and the pathology of the affections, the mechanical treatments of which are described. This arises from the fact that the author is himself a surgeon. He has also added much to the value of his work by the inclusion of many case reports. We commend the book to careful reading.

Food Preparedness for the United States. By CHARLES O'BRIEN. Duodecimo; 118 pages. Boston: LITTLE, BROWN AND COMPANY, 1917.

In this small book the author explains how Germany has met the food problem during the war, and discusses various aspects of the problem as it applies to us. He offers many practical methods of food economy on the part both of the State and of the individual. We have found the book both interesting and helpful.

Some Personal Recollections of Dr. Janeway. By JAMES BAYARD CLARK, M. D. Duodecimo; 36 pages. New York and London: G. P. PUTNAM'S SONS, 1917.

This little brochure, written *con amore*, is a charming tribute to one of the commanding personalities in the medical life of New York City during the past generation. In these few sketches the man is revealed as in a series of snapshots: his love of his vocation; his terseness of expression, his consecration to the highest ideals of his art; his helpfulness to the younger members of his profession; his rugged honesty and, above all, his intense humanism. To those who have known Dr. Janeway this book will arouse fond memories; to those who did not, it will serve as a real inspiration.

Progressive Medicine. Edited by H. A. HARE, M. D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia; assisted by LEIGHTON F. APPLEMAN, Instructor in Therapeutics, Jefferson Medical College. Philadelphia. June 1, 1917; octavo; 303 pages. Philadelphia and New York: LEA & FEBIGER.

This number contains the following digests: Hernia, by William B. Coley; Surgery of the Abdomen, by J. C. A. Gerster; Gynecology, by John S. Clark; Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Thyroid Gland, Spleen, Nutrition and the Lymphatic System, by Alfred Stengel; and Ophthalmology, by Edward Jackson. These reviews maintain the high standard of previous numbers of this publication.

International Clinics. Edited by H. R. M. LANDIS. Vol. 1 and 2; Twenty-seventh Series, 1917. Philadelphia and New York: J. B. LIPPINCOTT & COMPANY.

These two volumes contain a number of well written and valuable clinical lectures and especially prepared articles on many medical branches, *i. e.*, therapy, surgery,

medicine, etc., etc. The volumes are illustrated and supplied with an index.

Of special interest are the following articles: Local Anaesthesia in Surgery of the Colon and Rectum by William M. Beach; Gout and Infectious Arthritis, by Henry A. Christian; The Value of New Ear Tests in Diagnosis, by Isaac H. Jones; and a brief, but well arranged résumé of the progress of medicine during the year 1916.

First Aid to the Injured and Sick.. An Advanced Ambulance Handbook. By F. J. WARWICK, B.A., M.B., M.R.C.S., L.S.A., A.K.C., Major, R.A.M.C., and A. C. TUNSTALL, M.D., C.M., F.R.C.S., L.R.C.P., Major, R.A.M.C. *Tenth edition*, revised. 140th thousand. Duodecimo; 225 pages; 300 illustrations. New York: WM. WOOD & Co., 1917. 80 cents.

This is one of the best first aid handbooks that we have seen. It is written to be of use no less in civil practice than for the work of the war ambulance personnel. The profusion of illustrations and clear directions add much to its value.

Books Received

Military Surgery. By DUNLAP PEARCE PENHALLOW, S.B., M.D. (Harv.), Chief Surgeon, American Women's War Hospital, Paignton, England; Captain, Medical Corps, Massachusetts National Guard; First Lieutenant, Medical Reserve Corps, U. S. Army (inactive list); Director of Unit, American Red Cross European Relief Expedition. Octavo; 432 pages; illustrated. London: OXFORD UNIVERSITY PRESS, 1917. Price, $5.00.

Blood and Urine Chemistry. By R. B. H. GRADWOHL, M.D., Director of the Pasteur Institute, and the Gradwohl Biological Laboratories, St. Louis; and A. J. BLAIVAS, Assistant in the same; and former Assistant, Chemical Laboratory, St. Luke's Hospital, New York City. Octavo; 240 pages, 69 illustrations. St. Louis: C. V. MOSBY COMPANY, 1917. $2.50.

Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By HENRY S. MUNRO, M.D., Omaha, Nebraska. *Fourth Edition*, revised and enlarged, Octavo; 481 pages. St. Louis: C. V. MOSBY COMPANY, 1917. $5.00.

Surgical Operations Illustrated by Clinical Observations. By PROF. FEDOR KRAUSE, Privy Medical Councillor, Directing Physician Augusta Hospital, Berlin, in association with EMIL HEYMANN, M.D., Chief Physician, Augusta Hospital. Translated into English and edited for American readers by ALBERT EHRENFRIED, A.B., M.D., F.A.C.S., First Assistant Visiting Surgeon, Boston City Hospital; Surgeon, Boston Consumptives' Hospital. In six volumes. *Volume II;* octavo; 715 pages; 373 illustrations. New York: REBMAN COMPANY, 1917. $7.00.

Vaccine Therapy in General Practice. By G. H. SHERMAN, M.D., *Third edition.* Duodecimo, 523 pages. Detroit: G. H. SHERMAN, M.D., 1916.

Rest, Suggestion and Other Therapeutic Measures in Nervous and Mental Diseases. By FRANCIS X. DERCUM, A.M., M.D., Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College, Philadelphia; Foreign Corresponding Member of the Neurological Society of Paris; Corresponding Member of the Psychiatric and Neurological Society of Vienna; Member of the Royal Medical Society of Budapest; Consulting Neurologist to the Philadelphia General Hospital. *Second Edition.* Octavo; 395 pages. Philadelphia: P. BLAKISTON'S SON & Co., 1917. $3.50.

The Surgical Clinics of Chicago. Volume 1, Number 2. 448 pages; 99 illustrations. Philadelphia and London: W. B. SAUNDERS COMPANY, 1917.

Progress in Surgery

A Résumé of Recent Literature.

The Surgical Significance of Gastric Hemorrhage. DONALD C. BALFOUR, Rochester, Minn. *Journal of the American Medical Association*, August 11, 1917.

Gastric hemorrhages fall into two groups: first, primary lesions in the stomach and duodenum, such as ulcer, cancer, tuberculosis, syphilis; and second, certain diseases and infections, not necessarily associated with recognizable changes in the gastric mucosa. The indications for surgical treatment of a patient with single or recurring gastric bleeding due recognizably from ulcer are positive. According to the experience at Rochester to perform only gastro-enterostomy in such cases is to court recurrence of the hemorrhage, and excision, preferably by cautery or resection, is imperative. The management of the ulcer has been the subject of considerable controversy. As a single ulcer is rarely fatal, the margin of safety usually allows delay until clotting can take place and death occurs only from repeated bleedings at compartively short intervals. Recurrence of bleeding, therefore, after a serious hemorrhage is more than enough to indicate operating at once rather than risk further delay. In repeated continuous small hemorrhages transfusion has been found valuable not only in controlling the bleeding but in adding to the safety of future operations. In the second group of cases without a surgical lesion, a variety of diseases are to be considered: (1) those attended with recognizable changes in the liver or spleen, such as cirrhosis and splenic anemia; (2) cases in which a chronic infective focus, like appendicitis or gall bladder disease is responsible; (3) a group including in the main such acute infections as typhoid, pneumonia, etc., in which no changes can be demonstrated either at necropsy or operation, and cases of "gastrostaxis" of Hale White. The diagnosis is not easy and the difficulty is exaggerated by the fact that in many conditions, such as those mentioned above the appendix, gall bladder, etc., there occur digestive disturbances which can easily be interpreted as due to gastric ulcer and may be the cause of unnecessary operations. The close association of the spleen and liver in normal physiology and anatomy, and in disease processes, calls for the careful consideration of the spleen wherever the portal circulation is involved. The spleen or liver, or both, may be responsible for gastric hemorrhage without themselves exhibiting any other symptom of disease. The treatment by splenectomy of moderately advanced hepatic cirrhosis is yet in the experimental stage, and Balfour does not feel justified in drawing conclusions from the operations performed. Nevertheless he says there appears to be a definite group of so-called primary hepatic cirrhoses due to toxins originating in or elaborated in the spleen. So in those cases splenectomy may be indicated if the spleen is large, and may be looked on as probably curative. It is significant that in those cases of gastric hemorrhage with very slight erosions in the gastric mucosa, micro-organisms may be obtained from these erosions and also from the spleen, and it has been shown that certain encapsulated bacilli will cause gastric and intestinal hemorrhages. Though differing in certain respects they are alike in having the power to produce specific effects on blood-vessels and changes in the blood itself. The spleen must also be recognized as a positive causative factor not only of liver changes but directly or indirectly of gastric bleeding. The group of cases where there is an obvious focus of infection includes cholecystitis, pancreatitis, salpingitis, tuberculosis peritonitis and appendicitis. Gastric hemorrhage may occur and positive diagnosis be possible, but treatment as a rule is successful. The group of cases of serious hemorrhage without demonstrable cause has been the subject of much controversy. Unless the primary cause is found surgical treatment is not clearly indicated and the same is true regarding such acute infections as typhoid, pneumonia, etc. There are several facts that strongly suggest that gastric hemorrhage occurs through the same channel in all, namely, the portal circulation. It is not impossible that these focal infections produce changes in the liver tending to hepatic

cirrhosis, and it would seem also possible the resistance of the gastric mucosa can be thus reduced to permit the bacteria, always present, to set up these troubles. The proof that a gastric hemorrhage has taken place is essential and the determination and eradication of the original cause also, whether it is a chronic surgical lesion in the stomach or an extrinsic focus. The general indication of surgical treatment is to operate in the interval. The possibility that many of the extrinsic causes are toxic in nature should be recognized, and also that the infection takes place by means of the portal circulation Hence the liver is of first importance in these heretofore unexplained hemorrhages, and the spleen is also probably an important factor.

Ascending Lymphogenous Renal Infection. D. N. EISENDROTH and O. T. SCHULZ, Chicago, *Boston Medical and Surgical Journal,* July 5, 1917.

1. Anatomical studies have demonstrated the presence of an anastomosing network of lymphatics in the wall of the bladder and of the ureter, communicating above with a similar lymphatic network in the renal pelvis and parenchyma. At its lower end this system communicates also with the lymphatics of the pelvic structures, in both the male and female.

2. Infections of the bladder or lower ureter may reach the renal pelvis or the kidney, either by way of the lumen of the urinary tract or by way of the mural lymphatics.

3. Experimental and clinical evidence indicates that almost complete obstruction to the free passage of urine is necessary for ascent of infection by way of the lumen of the urinary tract.

4. Experimentally we have shown that infection, set up by the simple introduction of bacteria into the bladder without injury or without obstruction, may pass upward by means of the interstitial lymphatics of the ureter.

5. The degree of involvement following the introduction of bacteria into the bladder depends upon the virulence of the organism and upon the susceptibility of the animal. The subsequent tissue reaction may remain limited to the bladder and ureter, it may pass upward to the tissues of the renal pelvis, or even the parenchyma of the kidney itself may become involved.

6. When the kidney tissue is involved in ascending infection brought about experimentally, as described, the path of travel is from the sub-epithelial tissues of the pelvis to the kidney by way of the inter-tubular and perivascular lymphatics.

7. From the kidney the perirenal tissues may become involved through the capsular lymphatics, which anastomose with those of the cortex.

8. The experimental evidence indicates that, in cases of pyelitis and pyelonephritis in the human, secondary to infection of the bladder, the lymphatics constitute the most important course of upward travel of the infection, especially in those cases where there is no hindrance to the urinary outflow.

9. Pyelitis and pyelonephritis, not secondary to cystitis, may also be the result of lymphatic transport of infection from the pelvic organs in the male and female, and from the lower intestinal tract.

Edebohl's Operation in Nephritis in Children. JOHN LOVETT MORSE, Boston. *Journal of the American Medical Association,* August 18, 1917.

After giving the history and reviewing the literature of Edebohl's operation of nephropexy for the cure of chronic nephritis, Morse reports several cases where the operation was performed in children suffering from nephritis. The explanation of the good results from decapsulation with threatening uremia in nephritis is plain. The kidney is engorged with blood until the capsule is so tense and the internal tension so great that urination is impossible. It does not remove the cause or affect the essential pathologic process. Decapsulation of the kidneys should be undertaken, therefore, in acute nephritis only where there is a marked diminution in the amount of urine, and symptoms of intoxication are developing. In searching through the literature he has been able to find nineteen cases of subacute and chronic nephritis where decapsulation has been done in children, and he give abstracts of them. He has himself had the operation performed in four cases of chronic nephritis of the parenchymatous type, which he reports. It is very hard to understand how the operation can be of any benefit in chronic nephritis, either in children or adults, though it apparently does do good in some cases. This cannot be due to the relief of tension, as in the acute cases, and in lieu of a better explanation he suggests that the improvement is the result of changes in the circulation or functioning of the kidneys initiated by the handling of the kidneys at the time of operation. In the twenty-three cases he mentions that all the patients would have died in a short time without it as they were going steadily from bad to worse. Apparently as a result of the operation, two patients have been permanently cured, one of them remaining well nine years and another eight months. Another was well for two years, and then died of an acute nephritis in no way connected with the previous illness. Two others were well as long as they were under observation, but that was too short to consider them cured. Nine others have improved since the operation, but will certainly die at some time of their disease. He concludes that: "Edebohl's operation is of much value in properly selected cases of nephritis in childhood. It may save life and result in permanent cure in acute nephritis. No child ill with acute nephritis should be allowed to die, therefore, without giving it the advantage of the chance afforded by this operation. It may prolong life for considerable periods in a not inconsiderable number of cases of chronic nephritis, and may possibly, in rare instances, result in cure. It should, therefore, always be considered in all cases of chronic nephritis in childhood, which are not responding reasonably well under medical treatment."

Observations on the Degeneration of Leucocytes in the urine as a Diagnostic aid in Tuberculosis of the Urinary Tract in Women. H. M. N. WYNNE, Baltimore, *Johns Hopkins Hospital Bulletin,* August, 1917.

Wynne attempted to corroborate the contention of Colombino that the presence of degenerated leucocytes in the urine was always diagnostic of tuberculosis. He says that degenerated leucocytes are not pathognomonic of tuberculosis of the urinary tract, but marked degeneration is strongly suggestive of the disease. The absence of degeneration does not eliminate tuberculosis.

Results of Deep Roentgen-ray Therapy in 258 Cases of Malignant tumors. A. F. HOLDING, *American Journal of Medical Sciences,* July, 1915.

1. Roentgen rays give excellent therapeutic results in basal-cell epithelioma.

2. They ameliorate cases of carcinoma of the breast, ovary, and testis, tumors lymphatic structures especially when these tumors are made up of cells of an embryonal type.

3. While we cannot successfully maintain that the roentgen rays have yet proved to be a cure in cancer it is worthy of note that these rays as well as those of radium applied with removal when possible produce more uniform improvements in cancer than any other agents heretofore known, and the use of these agents in cancer is established until some effectual constitutional treatment for cancer is found.

4. Pending the discovery of some effectual constitutional treatment every effort should be made to increase the ameliorating effects of the radio-active methods.

5. Surgery should not ignore the benefits of these methods in the treatment of cancer, particularly in the postoperative raying and treatment against metastases.

6. Most of our improved cases eventually relapsed, and while their lives were prolonged and made more comfortable by the roentgen-ray treatment they eventually died of the disease.

7. In some instances these ameliorating effects were very striking and deserve particular attention in the hope that we may eventually discover means of making these ameliorations more lasting and even permanent.